

[Time:2.30 Hrs]

[ Marks:75 ]

Please check whether you have got the right question paper.

- N.B:
1. All question are compulsory.
  2. Figures to the right indicate full marks.
  3. Students answering in the regional language should refer in case of doubt to the main text of the paper in English.

- Q.1 Attempt **any three** of the following: 15
- a. What is operating system? Explain role of operating system as a resource manager.
  - b. Explain the process of Booting in computer
  - c. Explain the process of a system call.
  - d. Explain Dining Philosopher's problem
  - e. Explain process state with suitable diagram.
  - f. Explain round robin scheduling give proper example
- Q.2 Attempt **any three** of the following: 15
- a. Explain Segmentation in brief and state its advantages and disadvantages.
  - b. Explain the process of virtual memory.
  - c. Explain the process of paging.
  - d. Write a short note on Address space
  - e. Explain various file access mechanisms.
  - f. State the File Directories and explain each
- Q.3 Attempt **any three** of the following: 15
- a. Write a short note on Direct Memory Access.
  - b. What are Preemptable and Non-preemptable Resources? Explain
  - c. Explain Deadlock? How can deadlocks be prevented?
  - d. Write a short note on Device Drivers.
  - e. Write a short note on RAID.
  - f. Explain Programmed I/O in detail.
- Q.4 Attempt **any three** of the following: 15
- a. Write a short note on remote procedure call
  - b. State and explain Type1 and Type 2 Hypervisor with neat diagram
  - c. Explain memory virtualization.
  - d. Explain Master-Slave Multiprocessor
  - e. Define Cloud. Explain characteristics of cloud.
  - f. Differentiate between Multiprocessor, Multicomputer and Distributed Systems
- Q.5 Attempt **any three** of the following: 15
- a. Explain the booting process of Linux.
  - b. Explain any five file commands in Linux with example.
  - c. List categories of Linux utility programs. Explain any two.
  - d. Explain different process management system calls in Linux
  - e. Write a short note on security in Windows.
  - f. Explain features of Android.